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DP/PROJECTS/7542

ENGLISH

APPROVAL OF UNDP ASSISTANCE TO A GLOBAL PROJECT

(GLO/93/G32) - Alternatives to Slash and Burn

Date of approval by the AC:[1/]	10 November 1993
Expected duration:	One year
Proposed executing agency:	UNDP/OPS
Proposed UNDP contribution:	$3 000 000 Source of funds: GEF
Total UNDP budget:	$3 000 000

Project background

Slash and burn (shifting cultivation) agriculture which has been identified as the major cause of tropical deforestation, contributed substantially to global warming. Tropical deforestation, which accounts for 25 percent of global warming, is responsible for destruction of plant and animal genetic diversity and threatens the sustainability of many watersheds. In the past two decades, the incidence of deforestation in tropical Africa, America and Asia has doubled and is likely to continue increasing which will result in a large proportion of greenhouse gases. The traditional practice of shifting cultivation has been to clear the forest areas by axing and burning it during the periods of least rainfalls and to produce crops such as corn, rice, cassava, yams without the removal of weeds and debris. Even though initially this practice, considered to be cost-effective, provided nutrient availability for a few years to grow crop and helped control pests and diseases, in a few years the weed pressure and resultant nutrient deficiency is expected to impede further cropping and the fields to be abandoned to forest regrowth.

Slash and burn is a consequence of several complex socio-economic factors; and it is largely practised by resource-poor farmers and rural populations of the humid tropics who are displaced and migrate to the forest areas to make a living. The major effects of environmental degradation and global warming are felt at the local regional and global levels. It is these people who eventually bear the major effects of environmental degradation. Deforestation has various negative environmental effects including soil erosion and degradation, leaching, watershed degradation and loss of biodiversity. There is not enough data to determine the extent of release of carbon dioxide, nitrous oxides or methane by the slash and burn agriculture techniques. Several international agricultural research centres, national research systems (NARS) and NGOs have been making concerted efforts to conduct a research and development strategy that provides sustainable alternatives to slash and burn agriculture on a global basis. A global workshop on alternatives to slash and burn, partly supported by UNDP was held in Rondonia, Brazil in February 1992 to determine the feasibility of developing a global, coordinated effort on alternatives to slash and burn agriculture in tropical rainforest areas. The conclusion of this Workshop and a subsequent Global Steering Group meeting held in May 1992 provided the objectives and framework for this project. Alternatives developed as a result of this project will enable missions of poor and landless farmers to make an adequate living without taking recourse to destroying

[1/] **This Fact Sheet reflects the status of the project/revision at the time it was approved by the Action Committee; modifications to the project/revision may have occurred subsequently.**

additional forests. The research efforts made so far have revealed that for every hectare put into promising alternatives, five to ten hectares of tropical rainforest can be spared from the shifting cultivator's axe every year. In order that these alternatives are accepted by the farmers on a large scale, it is imperative that a concerted effort among socio-economic, agricultural, ecological and policy scientists and developers is made involving farmer participation. The present approval responds directly to Agenda 21's recommendation on "limiting and aiming to halt destructive shifting cultivation by addressing the underlying social and ecological causes".

Description of project

The project is part of a broader three-phase programme. It will be coordinated by the International Centre for Research on Agro-Forestry (ICRAF) and implemented by a consortium of scientists in collaboration with local peoples. The consortium will consist of three NGOs of Brazil, Cameroon and Indonesia, Agency for the Agricultural Research and Development (AARD), Indonesia; Agency for Forestry Research and Development (AFRD), Indonesia; Centro Internacional de Agricultural Tropical (CIAT), Colombia, Empresa Brasileira de Pequisa Agropecuaria (EMBRAPA), Brazil; Institute de Recherde Agronomiques (IRA), Cameroon; ICRAF; International Institute for Tropical Agriculture (IITA); Tropical Soil Biology and Fertility Programme (TSBF) and the World Resources Institute (WRI)

The first phase, for which GEF funding has been sought, comprises three benchmark sites, one per continent, selected to encompass a wide range of biophysical and socio-economic conditions in the humid tropics. In Africa, the site will be in the equatorial Congo rain forest, which is a zone of rapid demographic, social and environmental change. In Latin America, a site in the Brazilian Amazon is proposed, where semi-deciduous evergreen rain forests are currently undergoing rapid development. In Asia, the site envisioned is in the equatorial torial rain forests of Indonesia, where both primary forest clearing and degraded grasslands are abundant,. This phase of the project will build on ongoing research, and existing research facilities and institutions, thereby capitalizing on the current knowledge base and minimizing capital and administrative costs.

Specific activities under phase I will include biophysical research and socio-economic and policy research at the micro- and macro- levels and directed towards farmers, global and national policy-makers. The primary activity under the biophysical research component will be to evaluate existing and potential landuse alternatives to slash and burn agriculture and reclamation of degraded lands. The potential for improvements to enhance sustainability and productivity, and the principles governing their function will be evaluated through strategic process oriented on-station research. Priority biophysical research areas will include nutrient cycling and weed dynamics. Socio-economic research will provide knowledge about the economic, social and environmental benefits and costs associated with slash and burn and deforestation as opposed to more sustainable agriculture as research develops alternatives that are economically viable at the farm level and ecologically sound at a larger scale. Capacity building activities will be closely linked to the research agenda and to the needs of national research and development partners. Dissemination programmes will provide support in three main areas: (1) Strengthening of human resources through workshops and short-term training; (2) Information and documentation; and (3) Communications.

Inputs

UNDP will provide expertise and consultants; a subcontract to undertake biophysical and socio-economic research and capacity building; in-service training; and equipment. Various donors including the Ford and Rockefeller Foundations, the Asian, African and InterAmerican Development Banks, USAID, NORAD, CIRAD have expressed strong interest in providing co-financing to this research endeavour.

Financial data

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Personnel	616 000
Subcontract	1 786 000
Training	238 000
Equipment	125 000
Miscellaneous	55 000
AOS cost	180 000
Total	3 000 000

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